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ABSTRACT

Within the framework of motivational theory, a study investigated how teachers' use of immediacy behaviors impacted students' learning. Two competing explanations for the immediacy-learning relationship (the motivation model and the attention model) were tested using path analyses with panel data collected over the period of one semester. A total of 178 undergraduate students reported on 105 male instructors, 67 female instructors, and 6 instructors of unidentified gender. Participants reported on classes in 45 different departments at a mid-sized eastern university. Support was found for the motivation model explanation of the immediacy-learning relationship. Findings suggest that, using J. M. Keller's model of motivation (in which motivation requires four conditions: interest, relevance, expectancy, and satisfaction), teacher immediacy may have a positive impact on students' motivation to study because it addresses at least three of the four conditions of motivation. (Two tables and six figures of data are included. Contains 39 references.) (RS)

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IMMEDIACY AND LEARNING:
A MOTIVATIONAL EXPLANATION

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Abstract

Previous research has found positive associations between teachers' use of immediacy behaviors and students' reported motivation to study and learning. The purpose of this research was to provide greater understanding of how teachers' use of immediacy behaviors impacts students' learning within the framework of motivational theory. Two competing explanations were found in the literature for the immediacy-learning relationship. These two explanations, the Motivation Model and the Attention Model, were tested using path analyses with panel data collected over the period of one semester. Support was found for the Motivation Model explanation of the immediacy-learning relationship. Keller's (1979) model of motivation was used to interpret the results of this study.

During the past decade, teacher immediacy has been the focus of a great deal of instructional communication research. The focus of this research has been on teachers' use of the verbal and nonverbal behaviors, which have been identified as leading to perceptions of immediacy, and their impact on student outcomes. Teachers' communication of immediacy has been associated with increases in student motivation to study (Christophel, 1990; Richmond, 1990), affective learning (Andersen, 1979; Richmond, Gorham, & McCroskey, 1987), and cognitive learning (Kelley & Gorham, 1988). Empirical research has found a consistent association between students' perceptions of teacher immediacy and students' reports of their motivation to study, affective learning, and cognitive learning. Although there has been a successful program of research conducted on the impact of teacher immediacy, there has been little theory development in regards to the causal nature of the immediacy-learning relationship.

Recently, motivation has been proposed as a mediating variable between teacher immediacy and student learning (Christophel, 1990; Richmond, 1990). A positive relationship was found between teachers' immediacy and students' motivation to study, but the research was cross-sectional and non-experimental in design. Neither Christophel nor Richmond used motivational theory to explain their findings, instead, motivation was simply described as a mediating variable.

The purpose of the present research was to use motivational theory to explain the association between teachers' immediacy and students' learning. Extant research in instructional communication has often been based on the assumption that what a teacher says and does in the classroom can impact a student's attitude toward learning as well as what she/he actually learns. A review of the literature on teacher immediacy led to two competing theories presuming to explain the impact of teacher immediacy on student learning. These two competing models were then tested using path analysis to analyze the nature of the relationships between teacher immediacy, students' motivation to study, and students' reported learning. Keller's (1979) model of motivation was used to interpret the results.

Motivation

Motivation has been a widely studied construct in educational psychology over the years (e. g. Atkinson & Feather, 1966; Hull, 1943; Lewin, 1951; Murray, 1938). Motivation has frequently been defined and studied in terms of drive reduction (Hill, 1985) or the satisfaction of needs (Maslow, 1962). Generally these theories state that people are motivated to do things that are reinforcing; behaviors that reduce drives or that satisfy needs. In other words, an individual may be motivated to be friendly to others in order to meet her/his needs for affection. Atkinson defined motivation as the product of need for achievement (a trait-like variable), probability of success (an expectancy), and incentive value

of success (Weiner, 1972). Atkinson's theory of achievement motivation attempts to predict an individual's willingness to approach achievement-oriented activities, which is defined as a person's tendency to approach a task minus the tendency to avoid the task (Good & Brophy, 1977). This early motivation research has been limited in its generalizability to the classroom and in identification of strategies for improving students' motivation in the typical classroom (Good & Brophy, 1977).

Recently, motivation has been studied in terms of the factors that impact students' motivation in the classroom and what teachers can do to improve their students' motivation (Brophy, 1986, 1987; Brophy, Rashid, Rohrkemper, & Goldberger, 1983; Keller, 1979,1983; Wlodkowski, 1978). Motivation has been defined in various ways, but the concept of motivation always in some way refers to what students do. A common myth of motivation is that, "When students will not involve themselves in activities or do assigned tasks, they are unmotivated" (Wlodkowski, 1978, p. 13). Students are almost always motivated and interested in something, though that something may not be the behavior desired by the teacher. Motivating students to be interested and involved in studying for a class is of primary interest in the present research.

Brophy (1986, 1987) and Keller (1983) both define motivation as existing as a state and as a trait. State motivation refers to the motivation a student experiences toward a particular class, task, or content area at a particular time. State motivation is highly

influenced by the situation and can, therefore, vary from time to time. Trait motivation is more enduring and refers to a student's general motivation toward studying or learning. Wlodkowski (1978) alludes to the state-trait distinction by asserting that students are responsible for their own motivation, and no one can motivate anyone else (motivation as a trait), but then goes on to discuss strategies that can be used to facilitate student motivation (motivation as a state). The importance of this distinction is that teachers can indeed have an impact on the level of state motivation exhibited by students in their classroom. Student trait motivation is more independent of what the teacher does in the classroom than is state motivation, although Brophy (1987) alludes to the possibility of state motivation leading to trait motivation. State motivation is influenced and modified by elements in the current situation, and if the elements persist, they are likely to modify one's trait motivation. The focus of the present research is on communication variables that impact state motivation, although these variables may potentially impact trait motivation as well.

Brophy's (1986) work with motivation focuses on strategies that teachers can use to modify students' state motivation to study, which is in contrast with theories such as Atkinson and Feather's (1966) achievement motivation, which focuses on students' trait-like characteristics that influence their motivation in the classroom. Keller's (1979) model of motivation provides a framework for both lines of thought in understanding students' motivation. Keller's

(1979) model of motivation is based in social learning theory, which assumes an individual's motivation and behavior is a result of an interaction between the person and the environment. According to Keller's model of motivation, an individual's effort or motivation is determined by (1) her/his value for particular outcomes, and expectancies for success, and (2) environmental variables such as teacher behaviors. In other words, a student's motivation is influenced by both what he/she brings to the classroom (value for grades, expectations for success, etc.) as well as what the teacher says and does in the classroom (ability to make the content relevant, interesting, etc.).

Keller (1979, 1983) distinguishes between effort and performance. Effort refers to engagement and involvement in the task; a variable that is dependent on students' motivation and not on their intelligence or abilities. Performance refers to the actual accomplishment, which is influenced by intelligence and abilities. The focus of the present research is on motivation (effort) and not on performance, therefore, students' intelligence and abilities are not of immediate concern here. Student motivation is often associated with performance by teachers -- "If Billy was motivated, he could do better work." Although motivation is in all likelihood associated with performance, motivation is not a behavior, it is an internal state with trait-like characteristics.

Keller (1983) proposes four conditions necessary for influencing students' motivation to study in the classroom. These

four conditions are interest, relevance, expectancy, and satisfaction. In order to increase motivation, an instructor must gain the students interest. Getting students' attention is often considered to be a first step in motivating students to do a particular task (Brophy, 1986, 1987; Corno & Mandinach, 1983; Wlodkowski, 1978). If students are not paying attention, they will not be involved and put forth effort to learn. Instructors also must make the content or task relevant to students in order to modify motivation. Relevant tasks/content satisfies students' needs, such as the need for power, the need for achievement, or the need for affiliation (Keller, 1983). Expectancies is the third condition for motivation. Students need to have positive expectancies for success in order to be motivated. Positive expectancies are in part dependent on individual characteristics such as locus of control, but Keller (1983) maintains that instructors can influence students' expectancies for success. Communicating to students what is expected of them and that they can succeed at the task are examples of strategies Keller (1983) proposes for creating positive expectancies in students. Brophy (1986) also emphasizes the importance of developing positive expectations in students about the content/task. Brophy asserts that one way in which students' expectations are developed are through the attitudes and behaviors modeled by the instructor in regards to a task or content area. If a teacher acts bored when teaching geography, students will learn to expect geography to be boring. The last condition necessary for students' motivation is satisfaction. Students need to

feel satisfied with the outcomes of their effort in order to continue to be motivated. If a student puts forth a great amount of effort, and receives an unsatisfactory grade, the student's motivation to pursue that task will be reduced.

Immediacy

Immediacy has been defined as a communication variable that impacts the perception of physical and psychological closeness (Richmond, et al., 1987). Mehrabian (1971) introduced the immediacy metaphor which he used to describe the universal element of approach and avoidance -- people approach things they like and that appeal to them, and avoid things that they dislike, do not appeal to them, or which induce fear. Mehrabian (1971) and Weiner and Mehrabian (1968) described a variety of behaviors that communicate immediacy, including closer proximity, eye contact, smiling, verb tense (present vs. past), inclusiveness ("we" vs. "I"), and voluntarism ("want" vs. "should"). While immediacy is a high inference variable, these low inference behaviors have been described as contributing to perceptions of immediacy. Eye contact and smiling are not in themselves immediacy, but are behaviors that lead to perceptions of immediacy.

Andersen (1979) first investigated teacher nonverbal immediacy in the classroom. Andersen found that teacher immediacy was positively related to students' affective learning, but it was not associated with cognitive learning as measured by performance on a multiple choice test. This test was based on objectives provided to

the students and which were covered fully in the textbook. Thus, students need not have even attended the class to have learned the content (McCroskey & Richmond, 1992). The design of Andersen's study prevented a significant relationship between immediacy and learning from being found, therefore, not providing a sufficient test of the immediacy-cognitive learning relationship.

Later research by Kelley and Gorham (1988), supported the hypothesis that immediacy impacts cognitive learning. In a controlled setting where affect for the instructor was minimized, Kelley and Gorham (1988) demonstrated a causal relationship between immediacy behaviors and recall of information. Although cognitive learning is defined as more than mere recall of information, recall is an important component of cognitive learning (Bloom, 1956). Rationalizing that cognitive learning is directly linked to memory and recall, that attention to information is a necessary prerequisite for recall, that arousal is related to attention, and that immediacy is related to arousal, Kelley and Gorham concluded that an immediate teacher increased arousal and attention which, in turn, increased recall of the information presented.

The association between teacher immediacy and increased student affective learning has been found repeatedly (Christophel, 1990; Gorham, 1988; Kearney, Plax, & Wendt-Wasco, 1985; Richmond, 1990). Correlations between teacher immediacy and students' affective learning (toward the teacher, toward the content, and willingness to adopt behaviors prescribed in the course) have

consistently been positive and moderate in magnitude. The logical relationship between teacher use of immediacy behaviors and students' reported affective learning is that teacher immediacy "causes" increased affective learning among students. A spurious relationship between immediacy and affective learning, however, has not been ruled out.

Christophel (1990) questioned Kelley & Gorham's (1988) assumption that immediacy impacted learning via attention. Christophel proposed that teacher use of immediacy behaviors impacted students' motivation to study, which in turn impacted student learning. Christophel (1990) examined students' level of state and trait motivation to study. Christophel (1990) found that teacher immediacy (verbal and nonverbal) was positively associated with student motivation to study, with state motivation being more highly related to immediacy than trait motivation. Christophel (1990) concluded that immediacy had to first modify state motivation to study in order to impact learning. Consistent with Christophel, Richmond (1990) also found nonverbal immediacy to be positively associated with state motivation to study, affective learning, and perceived cognitive learning.

The research by Christophel (1990) and Richmond (1990) led to the first causal explanation of the immediacy-learning relationship. Teacher immediacy has a positive impact on students' motivation to study for a particular class, and that motivation has a positive impact on students' reported learning in that class. Teacher

immediacy impacts student motivation which in turn impacts student learning. Christophel (1990) found some support for the motivation explanation by determining that motivation accounted for the variance between teacher immediacy and student learning. This explanation will be referred to as the "Motivation Model" and is depicted in Figure 1. The Motivation Model proposes that students' state motivation to study is positively impacted by teacher verbal and nonverbal immediacy, and motivation impacts student learning.

The premise of immediacy research prior to Christophel's and Richmond's work was that teacher immediacy had a direct relationship with student learning. This explanation of the immediacy-learning relationship was best explained by Kelley and Gorham (1988), and is based on the assumption that immediacy is related to arousal which is related to attention which is related to learning. Kelley and Gorham found support for this model as was discussed above. Kelley and Gorham concluded that use of immediacy behaviors by teachers arouses students, gets their attention, and because of this increased attention, students learn more. This model, termed the "Attention Model," is depicted in Figure 2. It indicates that teacher verbal and nonverbal immediacy have a direct impact on student learning by gaining students' attention. Students' state motivation to study is also included in the Attention Model in order to make it comparable to the Motivation Model.

Although arousal and attention are components of motivation, these two models are indeed different. Kelley and

Gorham proposed that immediacy enhances learning because of increased attention in the classroom -- Jimmy is listening to the teacher instead of reading the paper. Christophel proposed that teacher use of immediacy in the classroom increases students' motivation to study -- Jimmy not only listens to the teacher, but feels involved in the content and looks forward to studying the content. Although these models are similar and overlap somewhat, the implications are different for these two models. If the Attention Model provides a better fit with the data, we can conclude that immediacy is a valuable teaching tool for getting students' attention, but does nothing to solve the problem of student interest and involvement in learning. If the Motivation Model provides a better fit with the data, we can conclude that immediacy is a valuable teaching tool because it increases students' interest and involvement, as well as their attention, in the learning process.

The following research question queries as to which of the above described models is most representative of the data.

RQ: Does the Motivation Model or the Attention Model provide a better fit with the data?

METHOD

Research Design

A primary objective of this research was to infer the causation of students' motivation by teachers' immediacy. Students' motivation was measured at three points in the semester, teachers reported

immediacy was measured at two points in the semester, as was students' reports of their learning. By collecting data at different points in time, a measure of teachers' immediacy at mid-semester can be used to predict a measure of students perceived motivation and/or learning at the end of the semester. The completion of the immediacy scale at mid-semester would not affect the completion of the motivation or learning scales at the end of the semester.

An experimental design that manipulated teacher immediacy was not used because of the lack of generalizability of motivation and learning induced in an experimental setting to a real classroom. While some form of learning or motivation can be stimulated in an experimental setting, the relationship between any such experimentally induced learning or motivation, and the learning or motivation that occurs in a real classroom during the semester, is unknown. One objective of this research, as well as other instructional research, is to be able to generalize across classrooms of various disciplines. Because of this desire for a large variety of classrooms, a field study that examined two or three classrooms (that for all practical purposes probably would had to have been communication classes) was rejected. Campbell (1992), in a recent ethnographic study of a classroom, concluded that the immediacy, affinity-seeking, and compliance-gaining behaviors were indeed present in the classroom, as reported by students in previous research. Through observation, Campbell concluded that students did respond to the teacher's communication behaviors (e.g.,

immediacy), providing support for survey data that have drawn the same conclusion (e.g., Andersen, 1979; Richmond, et al., 1987). Therefore, it was concluded that a panel design using survey data would provide generalizable and reliable associations that could be submitted to path analysis for examination.

Students' reports of teachers' use of immediacy behaviors has been determined to be a valid measure of teachers' actual use of immediacy behaviors in previous research. Andersen (1979) compared students' reports of immediacy to immediacy rating by trained observers and found that students were as accurate in assessing teachers' immediacy behaviors as were the trained observers. Using a split-class methodology to eliminate the possible contamination of the affective learning scores by concurrent completion of the immediacy scale, Christophel (1990) determined that students' reports of teacher immediacy had little influence on the subsequent completion of the motivation and affective learning scales. This split-class methodology required half of a class to complete the learning measures and the other half of the class to complete the teacher immediacy scale. Using this methodology, Christophel was able to replicate previous research findings of a positive association between teacher immediacy and student learning, "indicating most earlier discoveries were not simply an artifact of measurement" (p. 339). Students' individual characteristics have also been found to have little if any influence on how students report their teachers' immediacy behaviors. Frymier (1993) found

students' communication apprehension to have no relationship with their reports of teacher immediacy. Thompson, Frymier, Thomas, and Robinson (1992) found students' self-reported social style to have little relationship to their reports of teacher immediacy. The above research findings indicate that students' reports of teacher immediacy are a valid means of measuring teacher immediacy.

As is described in detail in the Procedures section of this paper, a measure of students' trait and state motivation was obtained on the first day of the semester prior to any exposure to the instructor of the class on which students were reporting. This measure of beginning motivation reflects what students brought to the classroom situation with them. Any changes in students' state motivation to study for a class during the semester could be attributed to the class itself, and more specifically to the teacher of that class. It could be argued that course design and content may be the source of causation as opposed to the teacher, but previous research on students attitudes toward the content and the teacher have found that students do not differentiate greatly between the teacher and the content (Christophel, 1990; Gorham, 1988; Richmond et al., 1987). In other words, if a student likes the teacher, he/she is also likely to like the content. Also, most college teachers use lecture and discussion methods with few college teachers using dramatically different teaching methods, therefore, course design should not have any meaningful effect on students' motivation throughout the semester.

Participants

Participants consisted of undergraduate students enrolled in communication courses at a mid-sized eastern university. Utilizing the methodology developed by Plax, Kearney, McCroskey, and Richmond (1986), participants were asked to evaluate the instructor of their class meeting immediately after the course in which they were completing the survey instruments. This methodology maximized the number of instructors evaluated, the range of disciplines represented, and included instructors who otherwise may not have agreed to participate in such a study.

Participants in this study consisted of 178 undergraduate students (87 females, 87 males, 4 unidentified). Participants reported on 105 male instructors and 67 female instructors (6 unidentified). Participants represented a cross-section of university students, with a fairly equal distribution of ranks and majors. Participants reported on classes in 45 different departments throughout the university, providing a wide variety of teachers and content being reported on.

Procedures

Data were collected at three points in the semester. On the first day of the semester (T_1), participants were asked to think of the class immediately following the one in which they were completing the research instruments and write the name of that instructor/course number on the inside of their course workbook. Students were also asked to record the code number on the survey in their workbook,

and to use that code number for future surveys. Participants were then asked to complete the trait and state motivation scales. Data were collected on the first day of the semester with students referencing a teacher in a class they had not yet attended in order to acquire a measure of students' beginning state and trait motivation free of instructor influence. At seven and eight weeks into the semester (T_2), participants were asked to recall the course on which they had completed the motivation measures at T_1, and again complete the trait and state motivation scales, and to complete the immediacy scale, the affective learning scale, and the cognitive learning scale on the same instructor as at T_1.[1] Participants were asked to record their code number in the appropriate space on the survey. During the week before final exams (T_3), participants were asked to complete the same scales as completed at T_2 on the same instructor. Surveys were matched by code number and course reported on for each participant. At T_1, 523 surveys (488 usable surveys) were collected; at T_2, 317 surveys were collected (39% attrition); and at T_3, 307 surveys were collected (3% attrition).[2] One hundred-seventy eight participants completed usable surveys for T_1, T_2, and T_3.

Measurement

Immediacy. Verbal immediacy was measured with the Verbal Immediacy Scale (Gorham, 1988), which consists 20 items. Nonverbal immediacy was measured with the Nonverbal Immediacy Scale, which consists of 14 items (Richmond, et al. 1987).

Participants were asked to indicate the frequency in which their teachers performed each immediacy behavior (on both verbal and nonverbal scales) using a Likert-type scale from zero (never) to four (very often). Reliability estimates for previous use of these scales have ranged from .80-.89 (Christophel, 1990). Reliability estimates, means, and standard deviations of all scales are shown in Table 1.

Insert Table 1 about here

Motivation. Motivation to learn has been conceptualized as occurring as a state and as a trait (Brophy, 1986). Trait and state motivation were operationalized with Richmond's (1990) motivation scale. The motivation scale consisted of five, seven-step bipolar adjectives, which was an expansion of Beatty, Forst, and Stewart's (1986) three-item scale. The same adjectives were used for both the state and trait measures of motivation, however, the directions for each scale differed. The state motivation scale asked students how they felt about studying for the class they took immediately after the class in which they were completing the scales. The trait motivation scale asked students how they felt in general about studying for classes. Richmond (1990) and Frymier and Thompson (1992) utilized the state motivation scale and both reported an alpha reliability of .94 (see Table 1 for reliabilities for the present study).

Affective Learning. Affective learning was operationalized with the Affective Learning Scale (Christophel, 1990; Richmond, 1990), a

scale adapted and expanded from previous research (Andersen, 1979; Gorham, 1988; McCroskey, Richmond, Plax, & Kearney, 1985; Scott & Wheeless, 1977). The Affective Learning Scale consisted of six subscale measures of students' attitudes and behavioral intent. Three of the subscales measure students' attitude toward course content, course recommended behaviors, and course instructor. Three subscales measure students' behavioral intent toward engaging in behaviors recommended in the course, enrolling in another course of related content, and taking another class with the same teacher. Richmond (1990) reported alpha reliabilities of .90 or above for each subscale and .96 for the total affect scale. Christophel (1990) reported alpha reliabilities of .86 or above for each subscale, and .97 and .98 for the total affect scale (see Table 1 for reliabilities for the present study).

Cognitive Learning. Cognitive learning was measured using an assessment technique involving students' perceptions of their own learning, an alternative approach to assessment using course grades or standardized tests (Richmond, et al., 1987; Richmond, McCroskey, Kearney, & Plax, 1987). The rationale for the assessment includes the ideas that: (1) all measurement involving cognitive learning is subjective to some degree; (2) college students can provide reasonably accurate estimates of how much they have learned in a course due to their considerable experience as students; (3) all testing is confounded by variables such as writing skills and attendance; and (4) it is unknown to what degree tests

measure real learning or test performance - short term recall and test taking abilities (Gorham, 1988). This rather subjective measure of cognitive learning was also chosen because of the design of this study. Since students were asked to report on the instructor in their next class (of which there were at least 100 different classes), it was impossible to collect grades of any kind. Additionally, the validity of comparing grades from different classes and different disciplines is questionable. Although this subjective measure of cognitive learning is not a perfect measure, it can be used to compare an aspect of learning across disciplines.

To measure cognitive learning at T_2 and T_3, students were asked first to estimate how much they had learned in the class on which they were reporting on a 0-9 scale. Second, students were asked to estimate how much they could have learned in that class with an ideal or perfect teacher on a 0-9 scale. The former statement can be subtracted from the latter to obtain a "learning loss" score. The first statement has also been found to be a useful measure of learning (Frymier & Thompson, 1992).

RESULTS

Preliminary Results

As was noted in the methods section above, a fairly large number of participants dropped out of the study. To insure that the participants who dropped out were not different from those who completed the study, an ANOVA was used to determine if there were differences in initial motivation (state and trait) between those who

dropped out and those who did not. Three groups of participants were compared, those who completed the study, those who completed surveys at T_1 and T_2, but not at T_3, and those who only completed the survey at T_1. State motivation at T_1 and trait motivation at T_1 served as dependent variables and group of participants, participant sex, rank, major, and type of course being reported on (elective, requirement, etc.) served as independent variables. There were no significant differences in state or or trait motivation to study for any of the independent variables, except for type of course reported on with state motivation at T_1, [$F(8,484)=2.74$, $p<.05$]. Course requirement accounted for less than 2% of variance in state motivation. Participants who only completed the survey at T_1 and who were reported on a class that was a core requirement (needed for graduation, but not for their major) had significantly lower state motivation. Considering the drop policy at the university in which data was collected and the flexibility students have in meeting core requirements, it is reasonable to conclude that students who were reporting on core requirement classes were more likely to drop those classes. However, this one significant difference that account for less than 2% of the variance does not indicate and meaningful differences between those students who completed the study and those that did not. It is reasonable to conclude that drop out from the study was random.

With correlational data, causality cannot be determined easily or directly. In one of the above models, immediacy has been

hypothesized as a cause of motivation. In an attempt to provide further support for this hypothesis, individual reporting differences were tested. State and trait motivation at T_1 (which was measured prior to exposure to the instructor) were used to predict student reported teacher immediacy behaviors to determine if a student's motivation influenced their reporting of immediacy. State and trait motivation at T_1 served as predictor variables and verbal and nonverbal immediacy at T_2 and T_3 served as criterion variables in separate analyses.

State and trait motivation at T_1 accounted for 4% of the variance in nonverbal immediacy at T_2 and produced a significant model, $F_{(2/177)} = 3.79$, $p < .05$. State and trait motivation at T_1 accounted for 5% of the variance in verbal immediacy at T_2 and produced a significant model, $F_{(2/177)} = 4.96$, $p < .01$. Using verbal and nonverbal immediacy at T_3 as criterion variables, state and trait motivation at T_1 did not produce a significant model with nonverbal immediacy at T_3, $F_{(2/177)} = 2.74$, $p = .06$. State and trait motivation at T_1 accounted for 8% of the variance in verbal immediacy at T_3 and produced a significant model, $F_{(2/177)} = 7.70$, $p < .001$. These results indicate that students' motivation predicts, to some degree, how immediate they will report their teacher as being. However, these effect sizes are relatively small and are likely to be significant due to the large sample size and the high reliability of the measures, and not because of highly meaningful associations. Also, the relationship between beginning motivation and reported immediacy

at mid-semester (and end of semester) is not nearly as strong as between reported immediacy and subsequent motivation. These preliminary results provide support for a causal relationship between student reports of teacher immediacy and student reports of motivation to study.

Research Results

The research question queried as to whether the Motivation Model or the Attention Model would prove to be a better fit with the data. To respond to this question, path analysis was used to test two conflicting models involving teacher immediacy. Path analysis separates the correlations among variables using standardized regression coefficients in a theory-generated model. Causation is inferred based on the the path coefficients, theory, and logical arrangement of the variables under consideration (Cohen & Cohen, 1983; Kenny, 1979).

A correlation matrix among the variables was created and the correlations were corrected for attenuation due to measurement error. The uncorrected and the corrected correlations are shown in Table 2. These correlations were used as the basis for the path analyses. Four models were tested: the Motivation and Attention Models each with affective learning (total scale) and cognitive learning (response to the first of the two statements[3]). Because of the questions of validity surrounding the measure of cognitive learning, the models with cognitive learning should be viewed somewhat tentatively. Variables gathered at different times in the

semester were used in the models in order to provide time precedence and to reduce the halo effect between variables. Trait motivation at T_1 (TMot1) was used to predict state motivation at T_3 (SMot3). According to Brophy (1986), state motivation is impacted by trait motivation.[4] Nonverbal immediacy at T_2 (NVerb2) and verbal immediacy at T_2 (Verb2) were used to predict SMot3 in the Motivation Model and affective learning at T_3 (Affect3) and cognitive learning at T_3 (Learn3) in the Attention Models. The completion of the immediacy scales at mid-semester should not affect the completion of the learning scales at the end of the semester. Any relationship between teacher immediacy at T_2 and learning at T_3 should be causal in nature. Based on the means and the high test-retest reliabilities of the verbal and nonverbal immediacy scales, the immediacy occurring at mid-semester was very similar to the immediacy occurring at the end of the semester.

The Motivation Model proved to be a better fit to the data then the Attention Model for both affective and cognitive learning. The chi-square analysis indicated a good fit of the Motivation Model with affective learning as the endogenous variable, χ^2 (6, $\underline{N}$ = 178) = 1.57, $\underline{p} > .05$. When cognitive learning served as the endogenous variable in the Motivation Model, χ^2 (6, $\underline{N}$ = 178) = 2.39, $\underline{p} > .05$, indicating a good fit of the data to the model. All path coefficients were significant except for the link between trait motivation and state motivation. However, trait motivation was left in the model because of its logical inclusion and theory which indicates that state motivation is

derived from trait motivation (Brophy, 1986; 1987). (See figures 3 and 4.)

Insert Table 2 and Figures 3 and 4 about here

The Attention Model for neither affective nor cognitive learning provided a good fit with the data. The chi-square analysis indicated a poor fit of the data with affective learning as the endogenous variable, χ^2 (6, N=178) = 92.19, p < .05. As shown in Figure 5, the path coefficient between trait motivation and state motivation was significant (p < .05), as well as were the paths between state motivation and verbal immediacy with affective learning, however, there were large residuals and a large squared error term. In the model with cognitive learning as the endogenous variable, χ^2 (6, N = 178) = 111.66, p < .05, indicating a poor fit with the data. As shown in Figure 6, neither verbal nor nonverbal immediacy had significant path coefficients with cognitive learning. The results of the above path analyses indicates that the data are more consistent with the Motivation Model than they are with the Attention Model.

Insert Figures 5 and 6 about here

DISCUSSION

The data in this study provided support for the Motivation Model explanation of the impact of immediacy on learning. The data did not support the competing Attention Model that proposed that teachers' use of immediacy has a direct effect on student learning. Comparing Figures 3 and 4 with Figures 5 and 6, it is obvious that verbal and nonverbal immediacy have stronger paths with state motivation than with either affective or cognitive learning. Verbal immediacy does have a significant path coefficient with affective learning in Figure 5, however the path analysis reveals a relatively large error between verbal immediacy and state motivation, indicating that state motivation mediates the relationship between verbal immediacy and affective learning. Although these data strongly support the Motivation Model, and reject the Attention Model, attention and/or arousal was not measured. If attention could have been satisfactorily measured and placed in the model, the data may have also supported the Attention Model.

Another explanation for the failure of the Attention Model to be supported comes out of Keller's (1979, 1983) model of motivation. Keller conceptualizes motivation as requiring four conditions: 1) interest, 2) relevance, 3) expectancy, and 4) satisfaction. Each of these conditions are crucial to student motivation, and Keller prescribes strategies for addressing each condition. Keller's model of motivation asserts that in order to motivate students you must arouse their interest and gain their

attention. This implies that arousal and attention are causes of motivation, rather than direct causes of learning. Attention may be a mediating variable between immediacy and motivation rather than immediacy and learning.

Using Keller's model of motivation, teacher immediacy may have a positive impact on students' motivation to study because it addresses at least three of the four conditions of motivation. Initially, an immediate teacher gains students' attention. Immediate teachers move about the classroom, make eye contact, use vocal variety, and call students by name, all of which are attention getting. Use of immediacy behaviors may also help to build positive expectations in students. This would certainly be indicated by the positive correlations between teacher immediacy and students' reported willingness to take another class in the same content area or with the same teacher. An immediate teacher seems to produce liking and positive feeling among students, producing an environment where success may seem more likely. The nature of testing and grading in a class as well as previous experience are obviously also important to students' expectations for success. In regards to satisfaction, students with an immediate teacher are likely to be more satisfied with the learning experience than those students with a low immediacy teacher. Students with a high immediacy teacher tend to report that they could not have learned very much more if they had had an ideal teacher (indicated by learning loss scores), which may be interpreted as satisfaction with the teacher and the course itself.

Use of immediacy behaviors probably does not increase relevance. Although in the college classroom, students may already recognize the relevance of the material being presented -- at least part of the time. Making content relevant for students is a communication issue, and could potentially be a fruitful area of research.

Use of immediacy behaviors does not meet all of the requirements laid out in Keller's model of motivation which is evidenced by the path coefficients for verbal and nonverbal immediacy in Figures 4 and 5 which range from .23-.35. In order to motivate students, teacher must do more than just use immediacy. However, immediacy does do more than simply get students' attention. If immediacy did nothing more than get students attention, the path coefficients from immediacy to learning would have been larger. Simply getting students' attention would have helped them learn more, but would not have made them feel more interested, involved, and looking forward to the class as is indicated by the path coefficients from immediacy to motivation. Therefore, immediacy appears to serve as an attention-getter which is why Kelley and Gorham (1988) successfully increased recall with an immediate presenter. Immediacy also serves to build positive expectations in students and increase students' satisfaction with the class, resulting in more motivated students.

This research provides a greater understanding of the impact of teacher use of immediacy on students' motivation to study and

perceived learning. Students' beginning trait motivation does not appear to have a large impact on state motivation later in the semester, as evidenced by the path coefficients in Figures 3-6. The environmental factors of teacher nonverbal and verbal immediacy behaviors seem to have a greater impact on state motivation to study for a particular class than does trait motivation. These teacher behaviors are consistently mediated by motivation in their impact on learning. It should be noted that state motivation and learning measured at T_3 and immediacy measured at T_2 were used to reduce the effects of temporal attenuation and/or a halo effect. The path coefficient from state motivation to learning is probably inflated since they were both measured at T_3. Using state motivation at T_2 in the path analysis reduces the path coefficient from motivation to learning and increases the path coefficients from immediacy to motivation, but does not change the structure or the fit of the models to the data.

The present research provides support for the Motivation Model which is causal in nature. Although data were collected throughout the semester, which provided time precedence of trait motivation and immediacy to state motivation and learning, the data on which the path analyses were based were still correlational data. The causal conclusions drawn from the path analyses are based on time precedence and on logic, and not on control of teacher immediacy. Spurious relationships among immediacy, state motivation, and learning have not been completely ruled out. However, as mentioned previously, student differences have not

been found to impact reports of teacher immediacy (Frymier, 1993; Thompson et al., 1992), supporting the hypothesis that student reports of immediacy reflect teacher immediacy behaviors and not student characteristics.

The question compelled by the Motivation Model is, "What else impacts students' motivation besides immediacy?" Extant research has examined the impact of teacher communication variables on learning (e.g., compliance-gaining, power, communicator-style, humor, and self-disclosure) with the assumption that a direct relationship existed between the teachers' communication and the students' learning. The Motivation Model suggests motivation may mediate the relationship between such communication variables and learning. If communication behaviors that have been previously found to be associated with learning, are found to actually influence motivation which in turn influences learning, further support for the Motivation Model will be found. Future research needs to be conducted to determine if motivation serves as a mediating variable between many communication variables and learning, or if the results of the present research are limited to the immediacy-learning relationship.

Keller's four conditions for motivation (attention, relevance, expectancy, and satisfaction) can be used to guide the development of communication strategies for enhancing student motivation. These four elements are all related to communication, and their existence in the classroom is dependent on the communication that

occurs in the classroom. The present research found nonverbal and verbal immediacy to enhance motivation, presumably by impacting these four conditions. Future research that seeks to develop teacher communication strategies for enhancing motivation should be developed with an eye on getting students' attention, making the content relevant, creating positive expectancies, and producing student satisfaction.

Clearly, the process of teaching and learning is complex. The role of motivation as a mediating variable is supported in the present research, but needs to be further elaborated upon. The measures of learning in this research by no means operationalized learning in its entirety (as would not grades, performance on tests, or any other measure of learning). Motivation may well prove with further research to be an important mediating variable between the complex array of teaching variables and the complex array of learning variables.

A primary goal of this research was to develop a model from extant research that could explain previous research as well as provide direction for further research. That goal was achieved by the development of two conflicting models based on previous research, the Motivation Model and the Attention Model. Support was found for the Motivation Model, and in combination with Keller's motivation model, greater understanding of Kelley and Gorham's (1988) work was incurred, as well as, directions for future research.

Notes

[1]Participants were also asked to assess their instructors' use of the 25 affinity-seeking strategies in Bell and Daly's (1984) typology and to complete a liking scale developed specifically for this study.

[2]The attrition rate was as expected, since any student who had dropped either the class on which they were reporting, or the class in which data were collected, were not included in the data analyses. Also, students who were absent on data collection days were unable to complete the survey, and students who lost their code number were unable to complete the survey. There were a number of students who completed surveys at T_1 and T_2, but not at T_3, and students who completed surveys at T_1 and T_3, but not at T_2 -- all of whom were not included in the data analyses.

[3]The first statement in the cognitive learning scale ("How much did you learn in this class?") was used in the path analyses because it was felt that it better represented how much students' actually perceived learning than did the learning loss score. Since this is a single item scale and a reliability cannot be calculated for it, correlations with cognitive learning were corrected for attenuation using the average reliability obtained in this study which was .90. Using .90 resulted in very conservative corrections for attenuation.

[4]A global measure of trait motivation, which was made up of the measures of trait motivation from T_1, T_2, and T_3, was first put into the model. However, the global measure did not meaningfully increase the prediction of state motivation at T_3, but did introduce

more colinearity with other variables in the model. Therefore, trait motivation at T_1, was used in the model.

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Table 1

Reliabilities, Means, Medians, and Standard Deviations of all Variables

Variable	Reliabilities alpha	test-retest	Mean	Median	SD
State Motivation1	.86	.80	24.32ab	24.00	5.39
State Motivation2	.94		22.04a	23.00	7.60
State Motivation3	.95		21.20b	22.50	8.11
Trait Motivation1	.78	.73	23.63	23.00	4.37
Trait Motivation2	.90		22.23	22.00	6.04
Trait Motivation3	.92		22.16	23.00	6.08
Verbal Immediacy2	.85*	.76	35.65c	35.00	11.22
Verbal Immediacy3	.84*		38.27c	38.00	11.17
Nonverb Immediacy2	.82	.75	36.80d	38.00	8.49
Nonverb Immediacy3	.83		35.19d	35.00	8.74
Affective Learning2	.98*	.58	108.00	68.00	16.64
Affective Learning3	.98*		107.53	63.00	17.55
Content2	.86	.45	18.53	10.00	2.90
Content3	.91		18.54	10.00	2.98
Behave2	.90	.44	18.81	11.00	2.76
Behave3	.94		18.77	10.00	2.67
Instruct2	.90	.50	18.92	9.00	3.26
Instruct3	.94		18.93	8.50	3.27
Engage2	.94	.44	17.84	11.00	3.46
Engage3	.95		17.76	10.00	3.59
Enroll2	.96	.51	16.66	12.00	4.50
Enroll3	.97		16.57	13.00	4.44
Anoth2	.97	.53	17.24	12.00	4.46
Anoth3	.97		16.97	10.00	4.72
Learn2	- -	.52	5.92	6.00	1.82
Learn3	- -		5.77	6.00	2.09
Learnloss2	- -	.61	1.57	1.00	1.66
Learnloss3	- -		1.61	1.00	1.86

* split-half reliability
Column means sharing the same subscript are significantly different at $p < .05$.

Table 2

Correlations Among Variables in Immediacy Models

	1	2	3	4	5	6
1 Trait Motivation T_1	- -					
2 State Motivation T_3	.18 (.16)	- -				
3 Nonverbal Immediacy T_2	.13 (.20)	.37 (.54)	- -			
4 Verbal Immediacy T_2	.16 (.21)	.42 (.42)	.45 (.47)	- -		
5 Affective Learning T_3	.15 (.17)	.76 (.35)	.31 (.46)	.42 (.79)	- -	
6 Cognitive Learning T_3	.09 (.11)	.67 (.25)	.22 (.38)	.34 (.72)	.69	- -

Correlations in paranthesis are corrected for attenuation.

Figure 1
Motivation Model with Immediacy

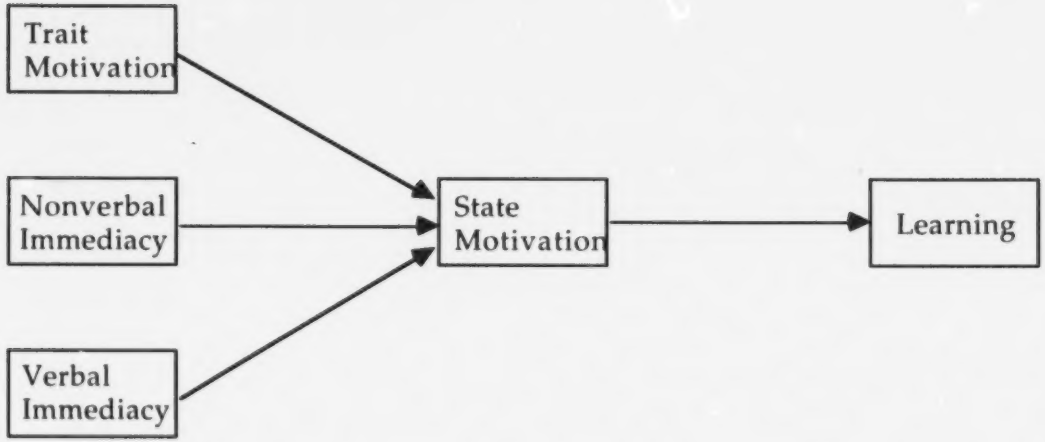


Figure 2
Attention Model with Immediacy

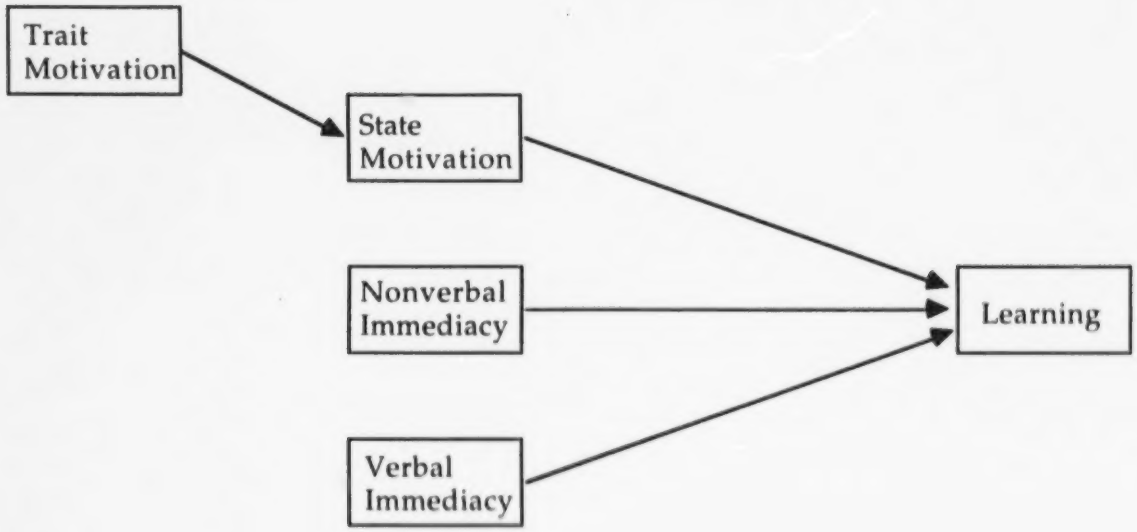
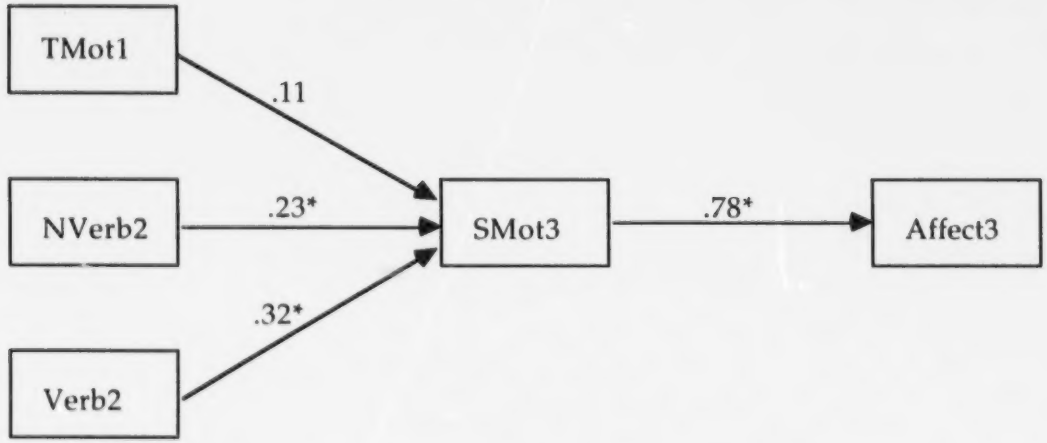
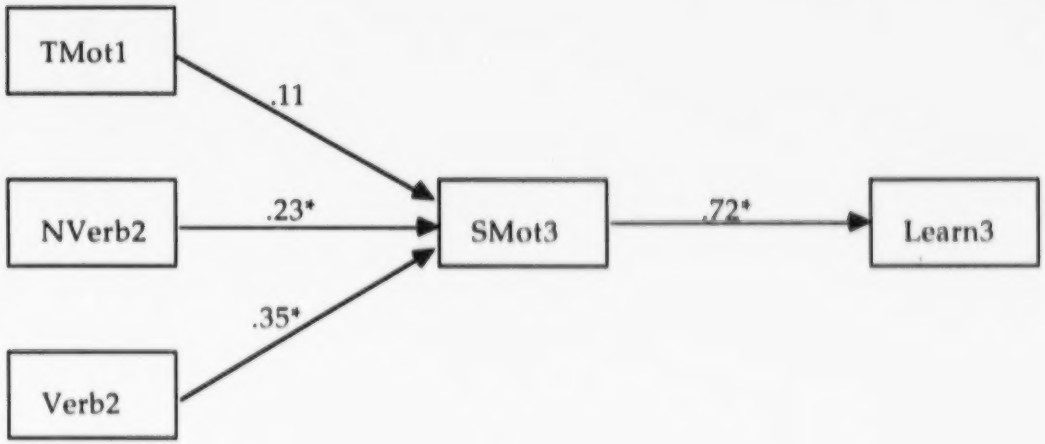


Figure 3
Motivation Model with Affective Learning



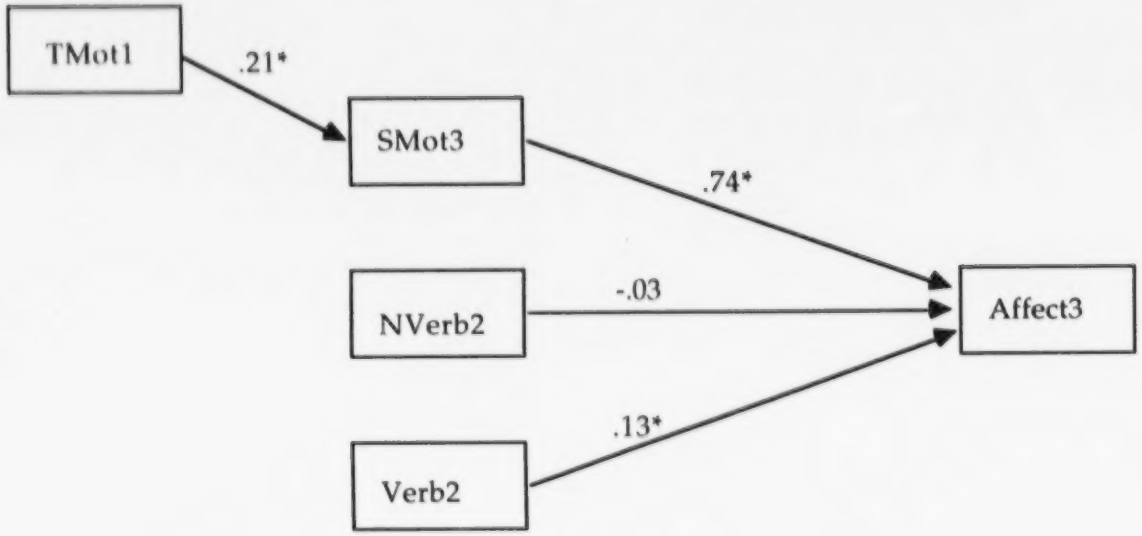
* $p < .05$

Figure 4
Motivation Model with Cognitive Learning



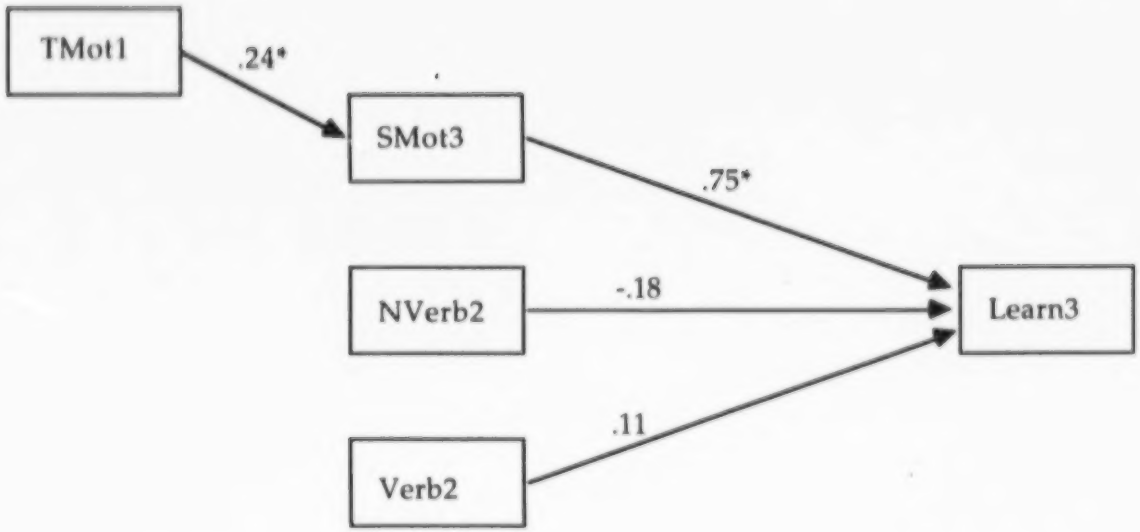
* $p < .05$

Figure 5
Attention Model with Affective Learning



*p < .05

Figure 6
Attention Model with Cognitive Learning



* $p < .05$